# MULLICA WATERSHED WATCH

Newsletter of the Mullica Watershed Planning Project

www.nj.gov/pinelands/mullica

Volume 1, Spring 2002



### Partners for Water Quality

Steering Committee members represent a wide variety of interests in the MullicaWatershed.

Atlantic County Dept. of Regional Planning and Development

American Littoral Society

Builder's League of South Jersey

Burlington County Office of Land Use

Camden County Division of Environmental Affairs

Chamber of Commerce of Southern NJ (invited)

Jacques Cousteau National Estuarine Research Reserve

NJDEP – Division of Watershed Management

NJDEP - Natural and Historic Resources

NJ Federation of Sportsmen's Clubs

NJ Forestry Association

NJ Pinelands Commission Science Advisory Committee

NJ Water Association

Ocean County (invited)

Pine Barrens Canoe & Kayak Rental

Pinelands Agricultural Advisory Committee

Pinelands Municipal Council

Pinelands Preservation Alliance

Richard Stockton College of NJ

Wharton State Forest

# The Mullica Watershed Planning Project: What's in it for You?

You may not be familiar with the term "watershed management," but if you live in New Jersey it's something that affects you. Watersheds are where we all live, work, play and—unfortunately—where we all pollute. Through the watershed management process, we can work together to ensure that we have clean and plentiful water and a healthy environment.

### What is a watershed, anyway?

Simply defined, a watershed is the total land area that drains into a particular stream or river. Water from rain or melting snow that runs over and through the land will eventually reach the river. On its way, that water can pick up many different types of materials, including oil, fertilizers, street litter and pet waste—just to name a few! The things we do on the land in a watershed will eventually affect the water.

### Watershed management in New Jersey

To help improve the quality of our state's water resources, the state Department of Environmental Protection (NJDEP) has identified 20 Watershed Management Areas (WMAs) in New Jersey. The Mullica River Watershed (WMA #14) is made up of part or all of 24 municipalities in 4 counties (Atlantic, Burlington, Camden and Ocean), stretching from the headwaters of the Mullica and Wading Rivers in the north part of the watershed,

southeast to the Great Bay where the Mullica flows into the Atlantic Ocean.

In September 2000, the NJ Pinelands Commission entered into a contract with NJDEP to work with a wide variety of organizations and individuals to develop a management plan for the Mullica Watershed. Through this effort, we will examine water-related issues in the watershed and develop strategies to maintain, restore or enhance water quality, quantity and ecosystem health.



The Mullica River from the Rt. 563 bridge, Lower Bank

### Things are happening!

Since the "kickoff" meeting for the project was held in April 2001, we have

launched a website (www.nj.gov/pinelands/mullica); formed a Steering Committee to guide the project; created a vision statement; developed ideas for water quality projects; and established technical focus groups to examine watershed issues and data.

Public participation is crucial to the success of this project, and YOU can get involved in many ways! Plans for the future include stormwater management and other water quality projects, educational workshops, public meetings and other events. Together, we can promote a clean and plentiful water supply in the Mullica Watershed. *Call Chris Krupka, Watershed Coordinator, at 609-894-7300 or email her at mullica@njpines.state.nj.us.* 

### MEET OUR WATERSHED AMBASSADOR

by Paul Wismar, Americorps Member

Hello and greetings from the second year of the New Jersey Watershed Ambassadors Program (NJWAP). My name is Paul Wismar; I recently graduated from Rutgers University with a degree in Communications concentrated in Environmental Policy.

NJWAP is an Americorps program hosted by the New Jersey Department of Environmental Protection (NJDEP). Because of the importance of watershed management in New Jersey, Americorps and NJDEP decided to place one "ambassador" in each of New Jersey's twenty watersheds. As the ambassador for the Mullica Watershed, my responsibilities are both numerous and diverse.

The ultimate goal of my one-year term of service with Americorps is to create a greater sense of awareness within the Mullica Watershed, so that people here realize that everything we do on the land eventually ends up in our water. To me, the Mullica Region is special and unique among the other watersheds in a few distinct ways. On one hand, much

of this watershed is protected; yet our aquifer here is extremely close to the surface, leaving it particularly susceptible to contamination. In addition, the acidity of the streams in this area poses a unique challenge to one of my duties: assessing water quality through macroinvertebrate sampling (the macroinvertebrates—a.k.a. bugs, worms and mollusks—that live in Pinelands streams are different than those found where the water is less acidic). The Mullica is truly a watershed apart from all others.

My duties as Watershed Ambassador also include teaching and training volunteers (who, by the way, are greatly encouraged!). I believe that the more environmentally conscious we are, and the more we are aware of the impacts of our daily activities on our environment, the better. The Earth has given us life; by altering our behavior just minimally, and changing our ideas just slightly, we can help to keep the Mullica Watershed and the Earth as beautiful and as healthy as ever.

If you are interested in watershed education, volunteer monitoring, or want to know how to do macroinvertebrate sampling, I would be pleased to help. I can be reached at 609-294-3111 or via email at pwismar14@hotmail.com.

# CREATURE FEATURE: The blackbanded sunfish

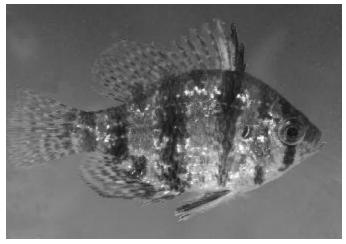
by John Bunnell, Pinelands Commission Staff

In each issue, we'll feature some of the many interesting nonhuman inhabitants of this beautiful area and tell you where you might be likely to observe them.

Three species of Enneacanthus sunfish are native to streams and impoundments in the Mullica River basin. All three species are small and have rounded fins and a vertical-bar pattern. These characteristics appear to be adaptations to the sluggish, vegetated habitats typical of coastal plain waters. The body and fin design may enhance maneuverability and the bar pattern may aid in concealment in these habitats.

One of the three species, the blackbanded sunfish (*E. chaetodon*), is particularly attractive. The combination of its small size, the stark contrast of black bars on a greenish-silver body, and the deep red to orange highlights on the leading edge of the pelvic (abdominal) fins makes this species a popular aquarium fish. The distinctive shape and coloration allows this sunfish to be distinguished from other species when it is only about 1/2 inch long. Adults may grow to be as large as three inches.

Blackbanded sunfish are tolerant of acid waters and have been reported from habitats in the Mullica River basin that range from pH 4.1 to 6.8 (pH of 7 is neutral (tap water)).



A Mullica Watershed resident: the blackbanded sunfish.

Although present in both streams and impoundments, they are typically more abundant in impounded habitats. They generally eat microscopic organisms, such as zooplankton, and glean larvae of small aquatic insects from vegetation.

Because the mouth of even a large individual is tiny, don't expect to catch a blackbanded sunfish when fishing. They are more easily observed by pulling a seine through vegetation along the quiet edges of a stream or impoundment. These small watershed residents may be found from the headwaters of the Mullica all the way down to the southern part of the main stem of the river.

### THINGS TO DO, PLACES TO GO

by Rich Federman, Pinelands Commission Staff

In each issue, this column will feature one of the many activities that you can enjoy in the Mullica Watershed.

### Hiking around the Mullica Watershed

One of the most relaxing and rewarding ways to experience the Mullica Watershed is on foot while traversing one of the area's many hiking trails. Hikes and nature walks can be enjoyed year-round in New Jersey's wooded coastal plain.

This column will explore three of the better known opportunities for hiking in and around the Mullica River basin. *Note:* this in no way represents an exhaustive list, as many municipalities offer miles of open space footpaths and forest trails for those in search of some exercise in a natural setting.

### The Batona Trail

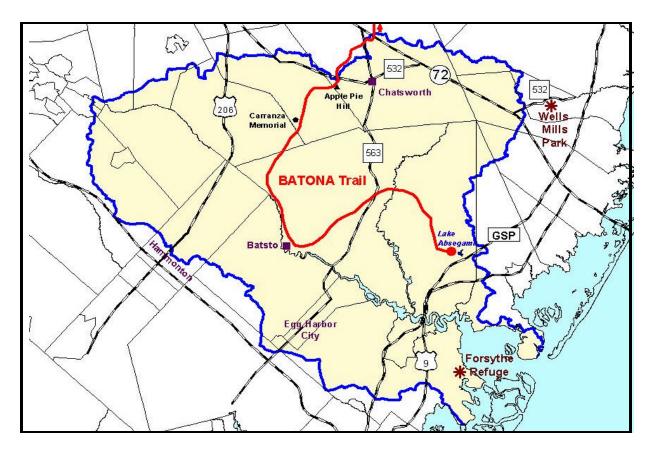
Because of its sheer length, and the fact that it winds its way through many of the Mullica watershed's most pristine woodlands, the **Batona Trail** is often the focus of discussions about hiking in the Pinelands. Named for the **BA**ck **TO NA**ture outdoors club that founded it in the early 1960s, it covers 50 miles across 5 Pinelands towns and 3 state forests.

Although not all of the Batona Trail is within the Mullica

basin, enough of it is (some 36 miles) to consider this the region's signature hiking trail. Beginning in the north near the small village of Ongs Hat in Southampton Township, the Batona winds its way through Lebanon State Forest, crossing Rts. 70 and 72 before turning south through Woodland and Tabernacle. At about the point where the Trail crosses Rt. 532 in Woodland Township, the Batona enters the Mullica watershed, where it remains as it traverses Wharton State Forest toward Batsto and eventually travels east into Bass River State Forest.

The Batona is accessible at many points along its route, providing the opportunity for hikes of various lengths and scenic interests. Within the Mullica basin, you can access the Batona at four places: via Rt. 532, via Carranza Road, at Quaker Bridge and at Batsto Village. The 19-mile eastern leg of the Trail crosses Rt. 563 at Evans Bridge, about 10 miles short of its terminus near Lake Absegami in Bass River Township.

A number of fascinating sites lie along the Batona Trail. Just across Rt. 532 near the border of Woodland and Tabernacle Townships stands Apple Pie Hill, one of the highest points in the otherwise remarkably flat Pinelands. Its fire tower provides a perch from which, on a clear day, you can gaze across the entire breadth of New Jersey, from the Delaware River to the Atlantic coast. About 4 miles further along, the Batona passes near the Carranza Memorial, which marks the *(continued on page 4)* 



Suggested places to hike in & around the Mullica Watershed

THINGS TO DO, PLACES TO GO (continued from page 3) approximate crash site of one of North America's most prominent aviation pioneers (Lindbergh's Mexican colleague). At 30 miles along the Trail from Ongs Hat, Batsto Village provides a look back into time for one of the nation's most unique historic regions. For camping information and permits, contact Wharton State Forest at 609-561-0024.

### Wells Mills County Park

Although **Wells Mills County Park** in Ocean Township falls just outside the northeast reaches of the Mullica Watershed, it is close enough and provides a distinct enough hiking experience to warrant mention here.

Established by Ocean County in the 1980s, Wells Mills occupies over 900 acres on Rt. 532, just off Rt. 72. Despite its current "untouched" appearance, this area was actually heavily exploited for mining and forestry throughout much of its history. Today, the peaceful lake and streams, ghostly green forest and unexpected hilltop vistas amid the tranquil silence are elixirs for the harried soul.

What sets this park apart from others in the region is its hilly terrain. The Penns Hill Trail—at over 8 miles, the park's longest—provides a tour of the area's surprisingly rigorous relief. These tree-covered hills, though certainly modest by mountain climbing standards, make a hike at Wells Mills a bit more challenging than elsewhere in the Pinelands.

### Edwin B. Forsythe National Wildlife Refuge

Our third hike represents a very different experience from the previous two. The Mullica watershed reaches the Atlantic coast at Great Bay just south of Long Beach Island, where the waters of the Mullica River drain into the sea. The Mullica basin hugs the Bay on both sides, with the southern shore made up primarily of Brigantine's **Edwin B. Forsythe National Wildlife Refuge**.

The Forsythe Refuge is one of the nation's premier waterfowl sanctuaries, providing unparalleled opportunities for viewing wildlife on the wing. Its marshes and surrounding woodlands offer habitat for migratory geese and ducks, as well other species including egrets, herons, falcons and even bald eagles.

The 8-mile route encircling the marshes is designed for cars but can also be used for walking or biking. Should you choose to hike all or part of this loop, you will undoubtedly stop frequently to admire the assemblages of waterfowl—pack your binoculars to make the most of this experience. Insect repellant can also be a valuable addition to your supplies.

The Forsythe Refuge is best visited during the spring and fall, when migratory stops are most frequent and outdoor conditions in this seashore setting most pleasant.

(For some tips on getting the most from your outdoor experience, check out "Watershed Wanderer" on page 7.)

# PREHISTORY OF THE MULLICA: What do cultural resource surveys tell us?

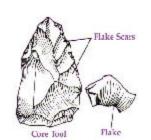
by Barry Brady, Pinelands Commission Staff

Human beings have occupied the Pinelands for over ten millennia, but scant evidence of them remains from about the first half of that period. In all likelihood, the population was sparse and spread over a landscape more vast than, and very different from, what we know today. The first inhabitants of southern New Jersey probably encountered a harsh, cold environment, still influenced by the retreating glaciers and stretching perhaps 50-60 miles east of the current coastline. Many of their modest habitation sites may have been swallowed up by the advancing waters of the Atlantic Ocean and now lie under the submerged portion of the coastal shelf.

After the Pinelands assumed roughly its modern pattern of rivers, streams and upland areas, Natives tended to gravitate towards the major water courses, where game was more plentiful and transit and transportation was easier. The archaeological record indicates that, while encampments are also common wherever a permanent waterway occurs, they are most plentiful, and most substantial, along the major drainages of the region, in particular the Mullica and the Great Egg Harbor Rivers.

Prehistoric site occurrence ("prehistory" refers to any nonliterate culture which, since it possesses no written record, must rely only on oral accounts, myth and legend; in North America, prehistory continues until the advent of European

culture) is well documented along the banks of both rivers in the Pinelands Commission's "cultural resource" inventories, and more sites are coming to light each year. Last summer, Commission staff conducted preliminary archaeological testing where road upgrades were scheduled in Mullica



Example of a stone tool and flake

Township and found "flakes" (waste pieces from the production of stone tools) within about 100 meters of the Mullica River.

Because of the high incidence of prehistoric sites in association with the Mullica River and other large Pinelands streams, the Commission must often require a "cultural resource survey" when development will occur in the vicinity. The survey is undertaken by qualified professional archaeologists and is intended to determine whether the development will have an adverse impact upon the remnants of a "significant" Native American site. A significant site is one where the evidence of occupation and utilization by ancient peoples is sufficient to provide useful information that is not available from another source. (continued on page 5)

### **PREHISTORY OF THE MULLICA** (continued from page 4)

In almost all cases, the survey involves a review of prior research and documentation about the project area and the prevalence of known historic and prehistoric sites in the vicinity and then a series of shovel tests, often in a grid pattern at maximum 50' intervals. The dirt from the test pits is poured through metal screening and checked for the presence of artifacts. If artifacts are uncovered, the archaeologist submits a report detailing the results of the survey, including a recommendation for further survey or full excavation, if the finds seem to warrant it.

The Commission staff then meets with the applicant to decide what is the most appropriate course of action. Redesign of the proposed project to avoid the archaeological site is often available and is generally the preferred alternative, both for the applicant and the Commission. If avoidance is not possible, the archaeologist submits a "research design" to the Commission, which details the field strategy and information goals for a full excavation of the site. In such rare instances, the Commission staff works with the applicant to ensure that a site is properly recorded and that the cost of the recording is kept to a minimum.  $\Longrightarrow$ 

# KIDS' CORNER Watershed Word Search by Rich Federman, Pinelands Commission

Staff



Can you find and circle the names of the 24 towns and 4 counties that make up the Mullica Watershed? (Hint: the names are listed somewhere in this newsletter.)

D D Ε G В С S S

# THE SECRET LIFE OF THE WATERSHED: A Droplet's Tale

by Rich Federman, Pinelands Commission Staff

# You've never heard the water cycle described quite like this!

There is, of course, no real beginning to the life of a drop of water. Perhaps it is more accurate to speak of its reincarnation, through endless cycles of condensation, liquid existence and evaporation. For the purposes of our story, however, this water droplet was born within a towering thunderhead passing swiftly with its storm from west to east above the low-lying coastal plain that underlies the New Jersey Pinelands. After being tossed about in the up and downdrafts of the cloud, the droplet finally fell to earth, landing on a plant growing along a streambank within the Mullica River basin. Now our story begins...

On other days the droplet might have clung to the plant until evaporation took it back into the skies. It might even have soaked into the soil. But this was a heavy rain and the droplet—along with many others—washes into the stream, along with soil that has eroded from the streambank and pollutants that the soil carries. As it moves along with the current, pulled by gravity towards larger and larger bodies of water, the droplet begins to take on the characteristics of the creek into which it has plunged.

The creek's water is more acidic than the droplets in the cloud or even on the plants that grow next to it. It also has a slight coppery tint, from the iron in the soils and the tannins released from decaying tree leaves and bark. And the molecules of water that make up *this* particular creek are mixed with still other things: chemicals, particularly nitrogen derivatives, carried to the creek by stormwater from nearby lawns and farm fields.

The watery twists and turns our droplet now navigates are part of what are called the headwaters for the mighty Mullica River. The Mullica draws its strength from these smaller tributaries, taking their water, their chemistry and even their living creatures. Today, our water droplet travels downstream along one of these waterways, toward the main body of the river. But it does not travel alone—a variety of aquatic life accompanies the droplet on its journey.

Among the most common of the fish darting through the stream is the aptly named swamp darter. Soon, a banded sunfish swims by, another Pinelands native. When the water droplet circulates to the stream's surface at night, the vocalizations of native carpenter frogs, northern spring peepers and green frogs can be heard from the surrounding woodlands and wetlands. Where development has altered the Pinelands environment, however, an occasional non-native wood frog can be heard.

The time has now come for our droplet to join with many others in a confluence that marks the start of the final leg of its journey to the sea. The creek's chaotic ramble behind it, the droplet now flows serenely southeast toward the Atlantic Ocean—the ultimate repository for waters moving down the eastern side of America's great mountain ranges.

Now in the main body of the Mullica River, conditions around it transform the droplet once again. The water here is more acidic, having been recently fed by streams running through the most pristine of the Pinelands' forests. The nitrates introduced by the lawns and agricultural lands to the west are still present, though diluted by the greatly increased volume of fresh water.

### Today, our water droplet travels downstream... But it does not travel alone...

Near the bottom of the river, the molecules are jostled by the particles of sand and such dumped into the River by its various tributaries. But at the surface, the waters are churned by a decidedly different type of visitor. Here, sunfish and mudminnows share the Mullica's waters with a variety of watercraft—from single-seat kayaks to luxury yachts. Recreational use by motorized boats is limited, for the most part, to the lower reaches of the Mullica, but kayaks and canoes are able to navigate many of the River's smaller branches.

Soon, a new substance becomes increasingly prevalent in the waters surrounding the droplet: salt. The Mullica has nearly run its course, and now we are within miles of the coastline. The basic chemistry of the river is changing, and soon many neighboring droplets will be cast adrift among the tall grasses of the salt marshes that dot the estuary.

Our water droplet has been fortunate to make it this far. At any turn it might have been taken up by the river's aquatic life, evaporated from the surface on a steamy afternoon, detained for use by humans or behind an industrious beaver's dam, or sucked below into the realm of ground water. But none of those things happened to this particular water droplet, and as a result it now enters the last outpost of the Mullica system: the Great Bay.

The Bay, like the other waters that lie largely protected from the sea behind New Jersey's great barrier islands, has essentially the characteristics of ocean water. Consequently, it contains the ocean's creatures, and our water droplet now mingles with the likes of flounder and striped bass. Its fate now may be to roam the open seas—or perhaps, once evaporated, to be brought ashore by an easterly wind and deposited again as a drop of rain upon the lands of the Mullica watershed.



# WATERSHED WANDERER: Wandering the Mullica in Spring

by Brian P. Szura, Pinelands Commission Staff

The lengthening days, the budding plant life and the breath of warm breezes turn my thoughts to quality time spent outdoors. While this past winter was a little disappointing to those of us who love to expose ourselves to the changes of the seasons, nevertheless the promises of Spring and new life are always a welcome occurrence.

### **Dress for Success**

A little preparation will go a long way in helping you get the most out of your outdoor adventure. The most important preparation is, of course, **proper clothing**. In early spring, when the temperature is still variable, several warm layers are better than a few heavy pieces of clothing because you either can take items off or put them on to maximize your comfort. Remember to keep extra layers in your backpack. I find that I start taking layers off about five or ten minutes into a hike.

If you plan to hike outside the bounds of the state forests or head off the beaten track, be sure to wear hunter orange or something bright. Leave that funny deer antler hat at home and save it for your next wild party. If you have any questions, be sure to check with the local state forest office. Play it safe!

Other important clothing items include a **hat** (for warmth or to keep off the sun), **sunglasses** and sturdy **boots**. Don't forget some other essentials like a **backpack**, **snacks**, **insect repellant**, **binoculars** and **field guides**.

Don't underestimate the importance of carrying enough water. You might not feel as thirsty as you do in the heat of summer, but you still need to drink just as much water in order to properly regulate your body temperature.

### Ready, Set... Go!

Now that you are prepared, let's hit the trail! Take time this Spring to really notice and appreciate the changes that are occurring all around you. Notice how the red buds of the maple look against smooth, gray bark. Soon, those buds will be replaced with new leaves. Take some time at dusk to listen for the first calls of the spring peepers. Catch a glimpse of an American Goldfinch returning from its winter vacation.

Spring is about change. Nature doesn't awake all at once, but takes her sweet time. First, the crocus pushes its head up through the hard, cold ground to savor the warming sunlight. Later, the pitcher plant will put forth its purple-veined, urnlike flowers to entice unsuspecting insects inside. The high, piping call of the spring peeper gives way to the ascending "crrrreeeek" of the New Jersey chorus frog. Still later, the nasal "kwonk" of the Pine barrens tree frog can be heard on warm, wet nights.

Take time to notice the changes. You may want to keep a journal of your field observations, noting the day, time, place and weather conditions. Remember that—especially with amphibians and reptiles—the time of day, temperature and humidity are important factors to consider when looking for certain species. You may even want to spend some time throughout the spring season conducting "listening watches" for the different species of frogs and taking note of their mating seasons. Pick nights that are warm and preferably humid, and keep track of the different species you hear by keeping notes in your journal. There are numerous audio references to help train your ear to recognize frog calls.

Remember that any sightings of rare, threatened or endangered species of plants or animals should be reported to the Pinelands Commission staff at 609-894-7300. Please be as specific and detailed in your account as possible.

Spring in the Mullica Watershed is an exciting time, and the whole watershed can be your classroom. Keep your eyes open to the wonders that unfold around you! m

(For some ideas about places to hike in the Mullica Watershed, check out "Places to Go, Things to Do" on page 3.)

### **ACTION NOW!**

Do you have an idea for a project that could quickly improve water quality, such as a stream cleanup or improvement of a local stormwater management system? We may be able to help! Submit your "Action Now" project ideas to the Mullica Watershed Planning project (see information below).

### **Mullica Watershed Planning Project**

"Mullica Watershed Watch" is a newsletter of the Mullica Watershed Planning Project, which is funded by the State of New Jersey, Governor James E. McGreevey, through a grant from the New Jersey Department of Environmental Protection, and coordinated by the New Jersey Pinelands Commission in cooperation with our partners throughout the watershed.

We invite you to get involved. For more information or to submit your own Action Now project ideas, article suggestions, organization events or other watershed happenings, contact:

Chris Krupka, Watershed Coordinator
NJ Pinelands Commission
P.O. Box 7, New Lisbon, NJ 08064
Ph: 609-894-7300 Fax: 609-894-7330
Email: mullica@njpines.state.nj.us
www.nj.gov/pinelands/mullica

# WHAT CAN YOU DO ABOUT "PEOPLE POLLUTION"?

By Chris Krupka, Pinelands Commission Staff

Most people today are familiar with "point pollution": it's pollution from a source you can point to, like a factory, a pipe or a ditch. Because of strong environmental regulations, we've done a good job of reducing point source pollution over the past few decades.

But "nonpoint source pollution" (NPS)—sometimes called "people pollution"—also affects all of New Jersey's watersheds. NPS happens when rain and melting snow runs over and through the land and picks up pollutants. Eventually, that runoff finds it way into lakes, streams and even into our underground sources of drinking water.

## There are many easy ways YOU can prevent nonpoint source pollution! Here are just a few:

- **Z** Keep litter and pet waste out of storm drains and sewers, and don't dump your used oil or other hazardous chemicals down there either—these drain directly to streams and rivers.
- **Z** Apply lawn and garden chemicals sparingly and according to directions, and use plants that need less water and fertilizer.
- **z** Clean up spilled brake fluid, oil, grease and antifreeze. Don't hose them into the street where they can eventually reach local streams and lakes. *∞*

For more information, visit the NJ Department of Environmental Protection's NPS website: www.state.nj.us/dep/watershedmqt/nps\_program.htm

### Does Your Lawn Make You Yawn? Go Natural!

Learn how to make your yard more beautiful AND protect our water resources at the same time! The Mullica Watershed Forum invites you to attend a FREE workshop on "Water Conservation through Better Landscape Design," offered on two dates this spring:

Sat., May 18 10:00am to 12 noon Galloway Twp. Municipal Bldq. Thurs., May 30 6:30pm to 8:30pm South County Regional Library, Atco

For more information, or to sign up for this FREE workshop, contact the Mullica Watershed Forum at 609-735-2200 ext. 14, FAX to 609-735-2202, or send email to mullicawatershedforum@yahoo.com. Include the session you would like to attend, your name, address, phone #, email and approximate acreage of your yard.

### **Teachers: Want to get WET?**

The Mullica Watershed Planning Project will sponsor a Project WET (Water Education for Teachers) workshop this spring for educators in grades 3 to 9. You can obtain the tools and knowledge to encourage your students to have a better appreciation of the value of water in their lives—and gain Professional Development Credits too! You'll also received a Project WET Curriculum Guide and NJ-specific water resource materials. For more information or to sign up, please contact Chris Krupka at 609-894-7300 or mullica@njpines.state.nj.us.



New Jersey Pinelands Commission P.O. Box 7, New Lisbon, NJ 08064 www.nj.gov/pinelands

# Do YOU Live in the Mullica Watershed?

These 24 municipalities are partially or entirely within the Mullica Watershed:

Barnegat Twp.
Bass River Twp.
Berlin Borough
Berlin Twp.
Brigantine City
Chesilhurst Borough
Egg Harbor City
Evesham Twp.
Galloway Twp.
Hamilton Twp.
Hammonton Town
Lacey Twp.

Little Egg Harbor Twp.
Medford Twp.
Mullica Twp.
Ocean Twp.
Port Republic City
Shamong Twp.
Stafford Twp.
Tabernacle Twp.
Washington Twp.
Waterford Twp.
Winslow Twp.
Woodland Twp.

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